

Appendix D

Data Associated with the Phase II No Exposure Provision

Appendix D–1 No-Exposure Certification Form

Appendix D–2–1 Unit Monitoring Costs by Industrial Subsector

Appendix D–2–2 Analytical Monitoring by Industrial Subsector

Appendix D–2–3 Projected Cost Savings by Industrial Sector

Appendix D–1

No-Exposure Certification Form


Appendix D

| NPDES FORM 3510-11 (5-99) | | United States Environmental Protection Agency Washington, DC 20460 NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting | OMB No. XXXXXX | | | | | | | | | | | | | | | | | | | | | | | | |
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| Submission of this No Exposure Certification constitutes notice that the entity identified in Section A does not require permit authorization for its storm water discharge associated with industrial activity in the State identified in Section B under EPA's NPDES Storm Water Multi-Sector General Permit due to the existence of a condition of no exposure. A No Exposure Certification must be provided for each industrial facility or site qualifying for the no exposure exclusion. Obtaining the no exposure exclusion obligates the discharger to comply with the terms and conditions of 40 CFR 122.26(g). ALL INFORMATION MUST BE PROVIDED ON THIS FORM. PLEASE READ AND MAKE SURE YOU COMPLY WITH ALL REGULATORY REQUIREMENTS. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A. Facility Operator Information 1. Name: _____ 2. Phone: _____ 3. Mailing Address: a. Street: _____ b. City: _____ c. State: _____ d. Zip Code: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B. Facility/Site Location Information 1. Facility Name: _____ 2. a. Street Address: _____ b. City: _____ c. County: _____ d. State: _____ e. Zip Code: _____ 3. Is the facility located on Indian Lands? Yes <input type="checkbox"/> No <input type="checkbox"/> 4. Is this a Federal Facility? Yes <input type="checkbox"/> No <input type="checkbox"/> 5. a. Latitude: _____° _____' _____" b. Longitude: _____° _____' _____" 6. Total size of site associated with industrial activity: _____ acres 7. a. Was the facility or site previously covered under an NPDES storm water permit? Yes <input type="checkbox"/> No <input type="checkbox"/> b. If yes, enter NPDES permit number: _____ 8. SIC/Activity Codes: Primary: _____ Secondary (if applicable): _____ 9. a. Have you paved or roofed over a large, formerly exposed, pervious area in order to qualify for no exposure? Yes <input type="checkbox"/> No <input type="checkbox"/> b. If yes, please indicate approximately how much area was paved or roofed over (completing this question does not influence your qualifying for the no exposure exclusion and is for informational purposes): Less than one acre <input type="checkbox"/> One to five acres <input type="checkbox"/> More than five acres <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C. Exposure Checklist Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;"></th> <th style="width: 15%; text-align: center;">Yes</th> <th style="width: 15%; text-align: center;">No</th> </tr> </thead> <tbody> <tr> <td>1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>2. Materials or residuals on the ground or in storm water inlets from spills/leaks</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>3. Materials or products from past industrial activity</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>4. Material handling equipment (except adequately maintained vehicles)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>5. Materials or products during loading/unloading or transporting activities</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> | | | | | Yes | No | 1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water | <input type="checkbox"/> | <input type="checkbox"/> | 2. Materials or residuals on the ground or in storm water inlets from spills/leaks | <input type="checkbox"/> | <input type="checkbox"/> | 3. Materials or products from past industrial activity | <input type="checkbox"/> | <input type="checkbox"/> | 4. Material handling equipment (except adequately maintained vehicles) | <input type="checkbox"/> | <input type="checkbox"/> | 5. Materials or products during loading/unloading or transporting activities | <input type="checkbox"/> | <input type="checkbox"/> | 6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants) | <input type="checkbox"/> | <input type="checkbox"/> | 7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Materials or residuals on the ground or in storm water inlets from spills/leaks | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Materials or products from past industrial activity | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. Material handling equipment (except adequately maintained vehicles) | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. Materials or products during loading/unloading or transporting activities | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants) | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |

Appendix D

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| NPDES FORM 3510-11 | | NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting | OMB No. XXXXXX |
| C. Exposure Checklist (continued) | | | |
| | | Yes | No |
| 8. Materials or products handled/stored on roads or railways owned or maintained by the discharger | | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Waste material (except waste in covered, non-leaking containers [e.g., dumpsters]) | | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Application or disposal of process wastewater (unless otherwise permitted) | | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and in quantities detectable in the storm water outflow. | | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Certification Statement | | | |
| <p>I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of no exposure and obtaining an exclusion from NPDES storm water permitting.</p> <p>I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)).</p> <p>I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES storm water permit prior to any point-source discharge of exposed storm water from the facility.</p> <p>Additionally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p> <p>Print Name: _____</p> <p>Print Title: _____</p> <p>Signature: _____ Date: _____</p> | | | |
| Instructions for the NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting | | | |
| Who May File a No Exposure Certification <p>Federal law at 40 CFR Part 122 prohibits point source discharges of storm water associated with industrial activity to waters of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit. However, NPDES permit coverage is not required for discharges of storm water associated with industrial activity if the discharger can certify that a condition of "no exposure" exists at the industrial facility or site.</p> <p>Storm water discharges from facilities identified in 40 CFR 122.26(b)(14)(x) and (b)(15)(i), as well as sources designated under 40 CFR 122.26(a)(1)(v), (a)(9)(i)(B),(C),(D) and (b)(15)(ii) are not eligible for the no exposure exclusion. Also, the exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls.</p> <p>This document may be used to certify that at the industrial facility or site described herein, a condition of no exposure exists. This certification is under the auspices of the EPA only and must be made at least once every five years. Should the industrial facility or site change such that a condition of no exposure no longer exists, this certification is no longer valid and coverage under an NPDES storm water permit must be obtained immediately.</p> <p>Where to File the No Exposure Certification Form</p> <p>Mail the completed no exposure certification form to:</p> <p style="margin-left: 20px;">Storm Water No Exposure Certification (4203) USEPA 401 M Street, SW Washington, D.C. 20460</p> | | Completing the Form <p>OBTAIN AND READ THE NO EXPOSURE EXCLUSION PROVISION AT 40 CFR 122.26(g). You must type or print, using uppercase letters, in appropriate areas only. Enter only one character per space (i.e., between the marks). Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. One form must be completed for each facility or site for which you are seeking to certify a condition of no exposure. If you have any questions concerning this form, call EPA's Storm Water Hotline at (800) 245-6510. Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the above address.</p> <p>Definition of No Exposure</p> <p>A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. The following are allowed to be exposed to precipitation or runoff: drums, barrels, tanks, and similar containers that are sealed and have not been opened (provided those containers are not deteriorated and do not leak); adequately maintained vehicles used in material handling; and final products, other than products that would be mobilized in storm water discharge (e.g., rock salt).</p> | |

Appendix D

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| NPDES FORM 3510-11 |  | NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting | OMB No. XXXXXX |
| Section A. Facility Operator Information | | | |
| <div style="display: flex; justify-content: space-between;"><div style="width: 48%;"><p>1. Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this certification. Do not use a colloquial name. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility's operation, rather than the plant or site manager.</p><p>2. Provide the telephone number of the operator.</p><p>3. Provide the mailing address of the operator (P.O. Box numbers may be used). Include the city, state, and zip code. All correspondence will be sent to this address.</p></div><div style="width: 48%;"><p>7. Indicate whether the facility was previously covered under an NPDES storm water permit. If so, include the permit number.</p><p>8. Enter the 4-digit SIC code which identifies the facility's primary activity, and second 4-digit code identifying the facility's secondary activity, if applicable. SIC codes can be obtained from the <u>Standard Industrial Classification Manual, 1987</u>.</p><p>9. Check "Yes" or "No" as appropriate to indicate whether you have paved or roofed over a large, formerly exposed pervious area (i.e., lawn, meadow, dirt or gravel road/parking lot) in order to qualify for no exposure. If yes, also indicate approximately how much area was paved or roofed over and is now impervious area.</p></div></div> | | | |
| Section B. Facility/Site Location Information | | | |
| <p>1. Enter the official or legal name of the facility or site.</p> <p>2. Enter the complete street address (if no street address exists, provide a geographic description [e.g., intersection of Routes 9 and 55]), city, county, state, and zip code. Do not use a P.O. Box number.</p> <p>3. Indicate whether the facility is located on Indian Lands.</p> <p>4. Indicate whether the industrial facility is operated by a Department or Agency of the Federal Government (see also Section 313 of the Clean Water Act).</p> <p>5. Enter the latitude and longitude of the approximate center of the facility or site in degrees/minutes/seconds. Latitude and longitude can be obtained from USGS quadrangle or topographic maps, by calling (800) USA-MAPS, or by accessing the U.S. Bureau of the Census' web page at www.census.gov/cgi-bin/gazetteer.</p> <p>Latitude and longitude for a facility in decimal form must be converted to degrees (°), minutes ('), and seconds (") for proper entry on the certification form. To convert decimal latitude or longitude to degrees/minutes/seconds, follow the steps in the following example.</p> <p>Example: Convert decimal latitude 45.1234567 to degrees (°), minutes ('), and seconds (").</p> <div style="margin-left: 20px;"><p>a) The numbers to the left of the decimal point are the degrees: 45°.</p><p>b) To obtain minutes, multiply the first four numbers to the right of the decimal point by 0.006: $1234 \times 0.006 = 7.404$.</p><p>c) The numbers to the left of the decimal point in the result obtained in (b) are the minutes: 7'.</p><p>d) To obtain seconds, multiply the remaining three numbers to the right of the decimal from the result obtained in (b) by 0.06: $404 \times 0.06 = 24.24$. Since the numbers to the right of the decimal point are not used, the result is 24".</p><p>e) The conversion for 45.1234567 = 45° 7' 24".</p></div> <p>6. Enter the total size of the site associated with industrial activity in acres. Acreage may be determined by dividing square footage by 43,560, as demonstrated in the following example.</p> <p>Example: Convert 54,450 ft² to acres</p> <p>Divide 54,450 ft² by 43,560 square feet per acre: $54,450 \text{ ft}^2 \div 43,560 \text{ ft}^2/\text{acre} = 1.25 \text{ acres}$.</p> | | | |
| Section C. Exposure Checklist | | | |
| <p>Check "Yes" or "No" as appropriate to describe the exposure conditions at your facility. If you answer "Yes" to ANY of the questions (1) through (11) in this section, a potential for exposure exists at your site and you cannot certify to a condition of no exposure. You must obtain (or already have) coverage under an NPDES storm water permit. After obtaining permit coverage, you can institute modifications to eliminate the potential for a discharge of storm water exposed to industrial activity, and then certify to a condition of no exposure.</p> | | | |
| Section D. Certification Statement | | | |
| <p>Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:</p> <p>For a corporation: by a responsible corporate officer, which means:</p> <div style="margin-left: 20px;"><p>(i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or</p><p>(ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [Note: wording subject to change as a result of NPDES streamlining, rnd. II];</p></div> <p>For a partnership or sole proprietorship: by a general partner or the proprietor; or</p> <p>For a municipal, State, Federal, or other public facility: by either a principal executive or ranking elected official.</p> | | | |
| Paperwork Reduction Act Notice | | | |
| <p>Public reporting burden for this certification is estimated to average 0.75 hours per certification, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, OPPE Regulatory Information Division (2137), USEPA, 401 M Street, SW, Washington, D.C. 20460. Include the OMB control number of this form on any correspondence. Do not send the completed No Exposure Certification form to this address.</p> | | | |

Appendix D-2-1

Estimated Unit Monitoring Costs for Multi-Sector

Exhibit D-2-1. Estimated Unit Monitoring Costs for Multi-Sector Permittees, in 1998 dollars

| <u>Parameter</u> | <u>Mean</u> | <u>Parameter</u> | <u>Mean</u> |
|--------------------------|-------------|-------------------------|-------------|
| Aluminum | \$14.22 | Organic Nitrogen | \$15.23 |
| Antimony | \$13.20 | Palladium | \$14.22 |
| Arsenic | \$13.20 | PCBs | \$73.63 |
| Barium | \$14.22 | Pesticides | \$109.17 |
| Beryllium | \$11.56 | pH | \$6.09 |
| Biological Oxygen Demand | \$25.39 | Platinum | \$14.22 |
| Bismuth | \$14.22 | Potassium | \$14.22 |
| Boron | \$14.22 | Selenium | \$13.20 |
| Cadmium | \$11.56 | Semivolatiles | \$317.36 |
| Calcium | \$14.22 | Silicon | \$14.22 |
| Chemical Oxygen Demand | \$25.39 | Silver | \$13.20 |
| Chromium | \$11.56 | Sodium | \$14.22 |
| Cobalt | \$14.22 | Thallium | \$11.56 |
| Copper | \$11.56 | Tin | \$14.22 |
| Dissolved Phosphorus | \$10.16 | Total Ammonia | \$22.01 |
| Fecal Coliform | \$15.91 | Total Dissolved Solids | \$8.46 |
| Fecal Streptococcus | \$15.23 | Total Kjeldahl Nitrogen | \$13.54 |
| Iron | \$14.22 | Total Phosphorus | \$9.65 |
| Lead | \$11.56 | Total Suspended Solids | \$8.46 |
| Lithium | \$14.22 | Vanadium | \$14.22 |
| Magnesium | \$14.22 | Volatiles | \$137.10 |
| Manganese | \$14.22 | Zirconium | \$14.22 |
| Mercury | \$19.80 | Zinc | \$11.56 |
| Molybdenum | \$14.22 | Total Cyanide | \$28.10 |
| Nickel | \$11.56 | Total Phenols | \$29.45 |
| Nitrate/Nitrite | \$10.16 | | |
| Oil & Grease | \$32.16 | | |

Note:
These values represent the mean values from four vendors of monitoring supplies and services. Some of the vendors have requested that the data remain confidential and others have their data on the World Wide Web.

Appendix D–2–2

Analytical Monitoring Costs by Multi-Sector Subsector

Exhibit D-2-2. Analytical Monitoring Costs by Multi-Sector Subsector

| Subsector | Name | Monitoring Parameters | Average Analytical Costs per Outfall | Sample Collection Costs | Number of Monitoring Events in Permit | Number of Outfalls | Estimated Total Cost (5 yrs) | Estimated Annual Cost |
|------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|--------------------------------------|-------------------------|---------------------------------------|--------------------|------------------------------|-----------------------|
| Sector A. Timber Products | | | | | | | | |
| 1 | General Sawmills and Planning Mills | COD, TSS, Zinc | \$45 | \$22 | 8 | 4 | \$2,129 | \$426 |
| 2 | Wood Preserving | Arsenic, Copper | \$24 | \$22 | 8 | 4 | \$1,479 | \$296 |
| 3 | Log Storage & Handling | TSS | \$8 | \$22 | 8 | 4 | \$965 | \$193 |
| 4 | Hardwood Dimension and Flooring Mills | COD, TSS | \$33 | \$22 | 8 | 4 | \$1,765 | \$353 |
| 4 | Special Product Sawmills, NEC | COD, TSS | \$33 | \$22 | 8 | 4 | \$1,765 | \$353 |
| 4 | Millwork, Veneer, Plywood | COD, TSS | \$33 | \$22 | 8 | 4 | \$1,765 | \$353 |
| 4 | Wood Containers | COD, TSS | \$33 | \$22 | 8 | 4 | \$1,765 | \$353 |
| 4 | Wood Buildings and Mobile Homes | COD, TSS | \$33 | \$22 | 8 | 4 | \$1,765 | \$353 |
| 4 | Reconstituted Wood Products | COD, TSS | \$33 | \$22 | 8 | 4 | \$1,765 | \$353 |
| 4 | Wood Products, NEC | COD, TSS | \$33 | \$22 | 8 | 4 | \$1,765 | \$353 |
| Sector B. Paper and Allied Products Manufacturing | | | | | | | | |
| 1 | Pulp Mills | None | NA | NA | NA | NA | NA | NA |
| 2 | Paper Mills | None | NA | NA | NA | NA | NA | NA |
| 3 | Paperboard Mills | COD | \$25 | \$22 | 8 | 4 | \$1,499 | \$300 |
| 4 | Paperboard Containers and Boxes | None | NA | NA | NA | NA | NA | NA |
| 5 | Converted Paper and Paperboard Products | None | NA | NA | NA | NA | NA | NA |
| Sector C. Chemical and Allied Products Manufacturing | | | | | | | | |
| 1 | Industrial Inorganic Chemicals | Aluminum, Iron, Nitrate + Nitrite | \$38 | \$22 | 8 | 4 | \$1,915 | \$383 |
| 2 | Plastics Materials and Synthetic Resins | Zinc | \$11 | \$22 | 8 | 4 | \$1,063 | \$213 |
| 3 | Drugs | None | NA | NA | NA | NA | NA | NA |
| 4 | Soaps, Detergents, and Cleaning Preparations | Nitrate + Nitrite, Zinc | \$21 | \$22 | 8 | 4 | \$1,383 | \$277 |
| 5 | Paints, Varnishes, Lacquers, Enamels, and Allied Products | None | NA | NA | NA | NA | NA | NA |
| 6 | Industrial Organic Chemicals | None | NA | NA | NA | NA | NA | NA |
| 7 | Agricultural Chemicals | Nitrate + Nitrite, Lead, Iron, Zinc, Phosphorus | \$56 | \$22 | 8 | 4 | \$2,499 | \$500 |
| 8 | Miscellaneous Chemical Products | None | NA | NA | NA | NA | NA | NA |

Exhibit D-2-2 Analytical Monitoring Costs by Multi-Sector Subsector (Continued)

| Subsector | Name | Monitoring Parameters | Average Analytical Costs per Outfall | Sample Collection Costs | Number of Monitoring Events in Permit | Number of Outfalls | Estimated Total Cost (5 yrs) | Estimated Annual Cost |
|---------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------|--------------------------------------|-------------------------|---------------------------------------|--------------------|------------------------------|-----------------------|
| Sector E. Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing | | | | | | | | |
| 1 | Flat Glass | None | NA | NA | NA | NA | NA | NA |
| 1 | Glass and Glassware, Pressed or Blown | None | NA | NA | NA | NA | NA | NA |
| 1 | Glass Products Made of Purchased Glass | None | NA | NA | NA | NA | NA | NA |
| 1 | Cut stone and stone products | None | NA | NA | NA | NA | NA | NA |
| 1 | Abrasive Products | None | NA | NA | NA | NA | NA | NA |
| 1 | Asbestos Products, Tiles, Building Materials | None | NA | NA | NA | NA | NA | NA |
| 1 | Mineral Wool, Insulation | None | NA | NA | NA | NA | NA | NA |
| 1 | Nonmetallic Mineral Products, NEC | None | NA | NA | NA | NA | NA | NA |
| 2 | Hydraulic Cement | None | NA | NA | NA | NA | NA | NA |
| 3 | Structural Clay Products | Aluminum | \$14 | \$22 | 8 | 4 | \$1,147 | \$229 |
| 3 | Pottery and Related Products | Aluminum | \$14 | \$22 | 8 | 4 | \$1,147 | \$229 |
| 3 | Non-Clay Refractories | Aluminum | \$14 | \$22 | 8 | 4 | \$1,147 | \$229 |
| 4 | Concrete, Gypsum, and Plaster Products | TSS, Iron | \$22 | \$22 | 8 | 4 | \$1,413 | \$283 |
| 4 | Minerals and Earths, Ground or Otherwise Treated | TSS, Iron | \$22 | \$22 | 8 | 4 | \$1,413 | \$283 |
| Sector F. Primary Metals | | | | | | | | |
| 1 | Steel Works | Aluminum, Zinc | \$25 | \$22 | 8 | 4 | \$1,511 | \$302 |
| 2 | Iron & Steel Foundries | Aluminum, TSS, Copper, Iron, Zinc | \$59 | \$22 | 8 | 4 | \$2,589 | \$518 |
| 3 | Primary Smelting and Refining of Nonferrous Metals | None | NA | NA | NA | NA | NA | NA |
| 4 | Secondary Smelting and Refining of Nonferrous Metals | None | NA | NA | NA | NA | NA | NA |
| 5 | Rolling, Drawing & Extruding - Nonferrous | Copper, Zinc | \$23 | \$22 | 8 | 4 | \$1,427 | \$285 |
| 6 | Non-ferrous Foundries | Copper, Zinc | \$23 | \$22 | 8 | 4 | \$1,427 | \$285 |
| 7 | Miscellaneous Primary Metal Products | None | NA | NA | NA | NA | NA | NA |

Exhibit D-2-2 Analytical Monitoring Costs by Multi-Sector Subsector (Continued)

| Subsector | Name | Monitoring Parameters | Average Analytical Costs per Outfall | Sample Collection Costs | Number of Monitoring Events in Permit | Number of Outfalls | Estimated Total Cost (5 yrs) | Estimated Annual Cost |
|-----------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|-------------------------|---------------------------------------|--------------------|------------------------------|-----------------------|
| Sector G. Metal Mining (Ore Mining and Dressing) Except Inactive Metal Mining Activities on Federal Lands | | | | | | | | |
| 1 | Iron Ores | None | NA | NA | NA | NA | NA | NA |
| 2 | Copper Ores | COD, TSS, Nitrate + Nitrite | \$43 | \$22 | 8 | 4 | \$2,085 | \$417 |
| 3 | Lead and Zinc Ores | None | NA | NA | NA | NA | NA | NA |
| 4 | Gold and Silver Ores | None | NA | NA | NA | NA | NA | NA |
| 5 | Ferroalloy Ores, Except Vanadium | None | NA | NA | NA | NA | NA | NA |
| 6 | Metal Mining Services | None | NA | NA | NA | NA | NA | NA |
| 7 | Miscellaneous Metal Ores | None | NA | NA | NA | NA | NA | NA |
| Sector H. Coal Mines and Coal Mining Related Facilities | | | | | | | | |
| 1 | Coal Mines and Coal Mining Related Facilities | Aluminum, Iron, TSS | \$36 | \$22 | 8 | 4 | \$1,861 | \$372 |
| Sector I. Oil and Gas Extraction | | | | | | | | |
| 1 | Crude Petroleum and Natural Gas | None | NA | NA | NA | NA | NA | NA |
| 2 | Natural Gas Liquids | None | NA | NA | NA | NA | NA | NA |
| 3 | Oil and Gas Field Services | None | NA | NA | NA | NA | NA | NA |
| 4 | Petroleum Refining | None | NA | NA | NA | NA | NA | NA |
| Sector J. Mineral Mining and Dressing Except Inactive Mineral Mining Activities on Federal Lands | | | | | | | | |
| 1 | Dimension Stone | TSS | \$8 | \$22 | 8 | 4 | \$965 | \$193 |
| 1 | Crushed and Broken Stone, Including Rip Rap | TSS | \$8 | \$22 | 8 | 4 | \$965 | \$193 |
| 1 | Nonmetallic Minerals, Except Fuels | TSS | \$8 | \$22 | 8 | 4 | \$965 | \$193 |
| 2 | Sand and Gravel | TSS, Nitrate + Nitrite | \$18 | \$22 | 8 | 4 | \$1,285 | \$257 |
| 3 | Clay, Ceramic, and Refractory Minerals | None | NA | NA | NA | NA | NA | NA |
| 4 | Chemical and Fertilizer Mineral Mining | None | NA | NA | NA | NA | NA | NA |
| Sector K. Hazardous Waste Treatment Storage or Disposal Facilities | | | | | | | | |
| 1 | Hazardous Waste Treatment, Storage or Disposal | Ammonia, Magnesium, COD, Arsenic, Cadmium, Cyanide, Lead, Mercury, Selenium, Silver | \$170 | \$22 | 8 | 4 | \$6,125 | \$1,225 |

Exhibit D-2-2 Analytical Monitoring Costs by Multi-Sector Subsector (Continued)

| Subsector | Name | Monitoring Parameters | Average Analytical Costs per Outfall | Sample Collection Costs | Number of Monitoring Events in Permit | Number of Outfalls | Estimated Total Cost (5 yrs) | Estimated Annual Cost |
|-------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------------------------|--------------------------------------|-------------------------|---------------------------------------|--------------------|------------------------------|-----------------------|
| Sector L. Landfills and Land Application Sites | | | | | | | | |
| 1 | Landfills and Application Sites | TSS, Iron | \$22 | \$22 | 8 | 4 | \$1,413 | \$283 |
| 1 | Open Dumps | TSS, Iron | \$22 | \$22 | 8 | 4 | \$1,413 | \$283 |
| Sector M. Automobile Salvage Yards | | | | | | | | |
| 1 | Automobile Salvage Yards | TSS, Aluminum, Iron, Lead | \$48 | \$22 | 8 | 4 | \$2,225 | \$445 |
| Sector N. Scrap Recycling Facilities | | | | | | | | |
| 1 | Scrap Recycling and Waste Recycling Facilities | COD, TSS, Aluminum, Copper, Iron, Lead, Zinc | \$95 | \$22 | 8 | 4 | \$3,753 | \$751 |
| Sector O. Steam Electric Generating Facilities | | | | | | | | |
| 1 | Steam Electric Generating Facilities | Iron | \$14 | \$22 | 8 | 4 | \$1,147 | \$229 |
| Sector P. Land Transportation Facilities with Vehicle Maintenance or Cleaning Operations | | | | | | | | |
| 1 | Railroad Transportation | None | NA | NA | NA | NA | NA | NA |
| 2 | Local and Highway Passenger Transportation | None | NA | NA | NA | NA | NA | NA |
| 3 | Motor Freight and Warehousing | None | NA | NA | NA | NA | NA | NA |
| 4 | US Postal Service | None | NA | NA | NA | NA | NA | NA |
| 5 | Petroleum Bulk Stations | None | NA | NA | NA | NA | NA | NA |
| Sector Q. Water Transportation Facilities with Vehicle Maintenance or Cleaning Operations | | | | | | | | |
| 1 | Water Transportation | Aluminum, Iron, Lead, Zinc | \$51 | \$22 | 8 | 4 | \$2,323 | \$465 |
| Sector R. Ship of Boat Building or Repairing Yards | | | | | | | | |
| 1 | Ship or Boat Building or Repairing Yards | None | NA | NA | NA | NA | NA | NA |
| Sector S. Air Transportation Facilities | | | | | | | | |
| 1 | Air Transportation | BOD, COD, Ammonia, pH | \$78 | \$22 | 8 | 4 | \$3,184 | \$637 |
| Sector T. Treatment Works | | | | | | | | |
| 1 | Treatment Works | None | NA | NA | NA | NA | NA | NA |

Exhibit D-2-2 Analytical Monitoring Costs by Multi-Sector Subsector (Continued)

| Subsector | Name | Monitoring Parameters | Average Analytical Costs per Outfall | Sample Collection Costs | Number of Monitoring Events in Permit | Number of Outfalls | Estimated Total Cost (5 yrs) | Estimated Annual Cost |
|--------------------------------------------------------------------------|-------------------------------------------|----------------------------------|--------------------------------------|-------------------------|---------------------------------------|--------------------|------------------------------|-----------------------|
| Sector U. Food and Kindred Products | | | | | | | | |
| 1 | Meat Products | None | NA | NA | NA | NA | NA | NA |
| 2 | Dairy Products | None | NA | NA | NA | NA | NA | NA |
| 3 | Canned, Frozen & Preserved Fruits | None | NA | NA | NA | NA | NA | NA |
| 4 | Grain Mill Products | TSS | \$8 | \$22 | 8 | 4 | \$965 | \$193 |
| 5 | Bakery Products | None | NA | NA | NA | NA | NA | NA |
| 6 | Sugar and Confectionery Products | None | NA | NA | NA | NA | NA | NA |
| 7 | Fat and Oils Products | BOD, COD, Nitrate + Nitrite, TSS | \$68 | \$22 | 8 | 4 | \$2,885 | \$577 |
| 8 | Beverage Facilities | None | NA | NA | NA | NA | NA | NA |
| 9 | Miscellaneous | None | NA | NA | NA | NA | NA | NA |
| 10 | Tobacco Products | None | NA | NA | NA | NA | NA | NA |
| Sector V. Textile Mills, Apparel, and Other Fabric Product Manufacturing | | | | | | | | |
| 1 | Textile Mill Products | None | NA | NA | NA | NA | NA | NA |
| 2 | Apparel and Other Finished Products | None | NA | NA | NA | NA | NA | NA |
| 3 | Boot and Shoe Cut Stock and Findings | None | NA | NA | NA | NA | NA | NA |
| 3 | Footwear except rubber | None | NA | NA | NA | NA | NA | NA |
| 3 | Leather Gloves and Mittens | None | NA | NA | NA | NA | NA | NA |
| 3 | Luggage and Cases | None | NA | NA | NA | NA | NA | NA |
| 3 | Handbags and Other Personal Leather Goods | None | NA | NA | NA | NA | NA | NA |
| 3 | Leather Goods NEC | None | NA | NA | NA | NA | NA | NA |
| Sector W. Furniture and Fixtures | | | | | | | | |
| 1 | Furniture and Fixtures | None | NA | NA | NA | NA | NA | NA |
| 2 | Wood Kitchen Cabinets | None | NA | NA | NA | NA | NA | NA |
| Sector X. Printing and Publishing | | | | | | | | |
| 1 | Printing and Publishing | None | NA | NA | NA | NA | NA | NA |

Exhibit D-2-2 Analytical Monitoring Costs by Multi-Sector Subsector (Continued)

| Subsector | Name | Monitoring Parameters | Average Analytical Costs per Outfall | Sample Collection Costs | Number of Monitoring Events in Permit | Number of Outfalls | Estimated Total Cost (5 yrs) | Estimated Annual Cost |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|--------------------------------------|-------------------------|---------------------------------------|--------------------|------------------------------|-----------------------|
| Sector Y. Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries | | | | | | | | |
| 1 | Tires and Inner Tubes | Zinc | \$11 | \$22 | 8 | 4 | \$1,063 | \$213 |
| 1 | Rubber and Plastics Footwear | Zinc | \$11 | \$22 | 8 | 4 | \$1,063 | \$213 |
| 1 | Gaskets, Packing, and Sealing Devices | Zinc | \$11 | \$22 | 8 | 4 | \$1,063 | \$213 |
| 1 | Fabricated Rubber Products, NEC | Zinc | \$11 | \$22 | 8 | 4 | \$1,063 | \$213 |
| 2 | Miscellaneous Rubber Products | None | NA | NA | NA | NA | NA | NA |
| 2 | Musical Instruments | None | NA | NA | NA | NA | NA | NA |
| 2 | Dolls, Toys, Games and Sporting and Athletic Goods | None | NA | NA | NA | NA | NA | NA |
| 2 | Pens, Pencils, and Other Artist's Materials | None | NA | NA | NA | NA | NA | NA |
| 2 | Costume Jewelry, Costume Novelties, Buttons, etc. | None | NA | NA | NA | NA | NA | NA |
| 2 | Miscellaneous Manufacturing Industries | None | NA | NA | NA | NA | NA | NA |
| Sector Z. Leather Tanning and Finishing | | | | | | | | |
| 1 | Leather Tanning and Finishing | None | NA | NA | NA | NA | NA | NA |
| Sector AA. Fabricated Metal Products | | | | | | | | |
| 1 | Cutlery, Handtools, and General Hardware | Iron, Zinc, Aluminum, Nitrate + Nitrite | \$49 | \$22 | 8 | 4 | \$2,279 | \$456 |
| 1 | Fabricated Structural Metal Products | Iron, Zinc, Aluminum, Nitrate + Nitrite | \$49 | \$22 | 8 | 4 | \$2,279 | \$456 |
| 1 | Screw Machine Products, and Bolts, Nuts, Screws, etc. | Iron, Zinc, Aluminum, Nitrate + Nitrite | \$49 | \$22 | 8 | 4 | \$2,279 | \$456 |
| 1 | Metal Forgings and Stampings | Iron, Zinc, Aluminum, Nitrate + Nitrite | \$49 | \$22 | 8 | 4 | \$2,279 | \$456 |
| 1 | Electroplating, Plating, Polishing, Anodizing, and Coloring | Iron, Zinc, Aluminum, Nitrate + Nitrite | \$49 | \$22 | 8 | 4 | \$2,279 | \$456 |
| 1 | Miscellaneous Fabricated Metal Products | Iron, Zinc, Aluminum, Nitrate + Nitrite | \$49 | \$22 | 8 | 4 | \$2,279 | \$456 |
| 1 | Jewelry, Silverware, and Plated Wire | Iron, Zinc, Aluminum, Nitrate + Nitrite | \$49 | \$22 | 8 | 4 | \$2,279 | \$456 |
| 2 | Coating, Engraving, and Allied Services | Zinc, Nitrate + Nitrite | \$21 | \$22 | 8 | 4 | \$1,383 | \$277 |

Exhibit D-2-2 Analytical Monitoring Costs by Multi-Sector Subsector (Continued)

| Subsector | Name | Monitoring Parameters | Average Analytical Costs per Outfall | Sample Collection Costs | Number of Monitoring Events in Permit | Number of Outfalls | Estimated Total Cost (5 yrs) | Estimated Annual Cost |
|--------------------------------------------------------------------------|--------------------------------------------------|-----------------------|--------------------------------------|-------------------------|---------------------------------------|--------------------|------------------------------|-----------------------|
| Sector AB. Transportation Equipment, Industrial, or Commercial Machinery | | | | | | | | |
| 1 | Industrial and Commercial Machinery | None | NA | NA | NA | NA | NA | NA |
| 1 | Transportation Equipment | None | NA | NA | NA | NA | NA | NA |
| Sector AC. Electronic, Electrical, Photographic and Optical Goods | | | | | | | | |
| 1 | Electronic and Other Electrical Equipment | None | NA | NA | NA | NA | NA | NA |
| 1 | Measuring, Analyzing and Controlling Instruments | None | NA | NA | NA | NA | NA | NA |
| 1 | Computer and Office Equipment | None | NA | NA | NA | NA | NA | NA |
| Sector AD. Any Inadvertent Omissions | | | | | | | | |
| 1 | Any Inadvertent Omission | None | NA | NA | NA | NA | NA | NA |

Notes:

NA = Not Applicable
TSS = Total Suspended Solids
COD = Chemical Oxygen Demand
BOD = Biological Oxygen Demand

Appendix D–2–3

Projected Cost Savings by Industrial Subsector

Appendix D-2-3 Projected Cost Savings by Industrial Subsector

Exhibit D-3 indicates the estimated number of industrial facilities in each subsector (under the multi-sector general permit) that may qualify for the no exposure exemption and the cost savings associated with each subsector. Below are explanatory profiles of each column in the exhibit.

- The column “***number of facilities with no exposure***” represents the estimated number of facilities that by definition require a NPDES permit but may qualify for the no exposure exclusion due to an existence of no exposure on their site. (See Exhibit 9-3.)
- ***Visual monitoring*** annual costs were estimated by multiplying the average wage rate by the number of monitoring events in a year. If the average cost to collect and visual inspect a storm water sample is \$22.51 and each facility is required to conduct visual monitoring quarterly and it is assumed that each facility has four separate outfalls, the estimated annual cost to collect and visually inspect storm water samples is estimated to be \$355.
- ***Analytical monitoring*** annual costs were calculated by, first, determining the parameters to be monitored for each subsector in the modified multi-sector general permit and, then, adding the mean monitoring costs indicated in Exhibit D-2b for each parameter to the sample collection costs of \$22.51 per outfall (see Exhibit D-2b). It was also assumed that each facility would collect samples from 4 outfalls per sampling event. A total five-year cost was calculated and then divided by five to provide an estimated annual cost. (Analytical monitoring is only required to occur during years 2 and 4 of the permit.)
- The low and high ***storm water pollution prevention plan*** costs were previously calculated in Exhibits 9-4 and 9-5. Since facilities have already implemented their storm water pollution prevention plans it was decided to assume that the per facility pollution prevention cost was equivalent to the annual cost, not the total costs.
- ***Per facility annual*** low costs are the sum of visual monitoring costs, analytical monitoring costs, low pollution prevention costs, plus expenditures for submittal of the NOI, notification of the local municipal government, and recordkeeping. The high per facility costs are similar except the high pollution prevention cost was used instead of the low pollution prevention costs.
- The ***annual cost savings*** (low) is the number of facilities with no exposure multiplied by the per facility annual costs (low). The annual cost savings (high) is the number of facilities with no exposure multiplied by the per facility annual costs (high).

Appendix D

Exhibit D-2-3. Potential Cost Savings for Industrial Permittees, in 1998 Dollars

| Subsector | Name | Number of Facilities w/ no Exposure | Analytical Monitoring Annual Costs | Per Facility Annual Costs (Low) | Per Facility Annual Costs (High) | Total Annual Costs (Low) | Total Annual Costs (High) |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------|------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|
| Sector A. Timber Products | | | | | | | |
| 1 | General Sawmills and Planning Mills | 1278 | \$427 | \$4,540 | \$25,026 | \$5,800,869 | \$31,975,218 |
| 2 | Wood Preserving | 105 | \$296 | \$4,409 | \$24,895 | \$462,064 | \$2,609,039 |
| 3 | Log Storage & Handling | 3001 | \$191 | \$4,304 | \$24,790 | \$12,918,183 | \$74,403,801 |
| 4 | Hardwood Dimension and Flooring Mills | 177 | \$351 | \$4,464 | \$24,950 | \$789,800 | \$4,414,216 |
| 4 | Special Product Sawmills, NEC | 42 | \$351 | \$4,464 | \$24,950 | \$185,778 | \$1,038,319 |
| 4 | Millwork, Veneer, Plywood | 1027 | \$351 | \$4,464 | \$24,950 | \$4,583,176 | \$25,615,498 |
| 4 | Wood Containers | 536 | \$351 | \$4,464 | \$24,950 | \$2,390,800 | \$13,362,244 |
| 4 | Wood Buildings and Mobile Homes | 215 | \$351 | \$4,464 | \$24,950 | \$961,961 | \$5,376,428 |
| 4 | Reconstituted Wood Products | 65 | \$351 | \$4,464 | \$24,950 | \$291,798 | \$1,630,868 |
| 4 | Wood Products, NEC | 604 | \$351 | \$4,464 | \$24,950 | \$2,696,215 | \$15,069,219 |
| Sector B. Paper and Allied Products Manufacturing | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Pulp Mills | 10 | | \$4,113 | \$24,599 | \$43,018 | \$257,269 |
| 2 | Paper Mills | 68 | | \$4,113 | \$24,599 | \$277,823 | \$1,661,528 |
| 3 | Paperboard Mills | 48 | \$300 | \$4,413 | \$24,899 | \$211,531 | \$1,193,516 |
| 4 | Paperboard Containers and Boxes | 600 | | \$4,113 | \$24,599 | \$2,469,038 | \$14,766,162 |
| 5 | Converted Paper and Paperboard Products | 676 | | \$4,113 | \$24,599 | \$2,781,813 | \$16,636,721 |
| Sector C. Chemical and Allied Products Manufacturing | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Industrial Inorganic Chemicals | 322 | \$383 | \$4,496 | \$24,982 | \$1,445,938 | \$8,034,161 |
| 2 | Plastics Materials and Synthetic Resins | 155 | \$210 | \$4,323 | \$24,809 | \$668,808 | \$3,837,939 |
| 3 | Drugs | 341 | | \$4,113 | \$24,599 | \$1,401,661 | \$8,382,678 |
| 4 | Soaps, Detergents, and Cleaning Preparations | 535 | \$274 | \$4,387 | \$24,873 | \$2,346,801 | \$13,304,855 |
| 5 | Paints, Varnishes, Lacquers, Enamels, and Allied Products | 305 | | \$4,113 | \$24,599 | \$1,254,684 | \$7,503,676 |
| 6 | Industrial Organic Chemicals | 214 | | \$4,113 | \$24,599 | \$880,967 | \$5,268,652 |
| 7 | Agricultural Chemicals | 202 | \$498 | \$4,611 | \$25,097 | \$930,383 | \$5,063,645 |
| 8 | Miscellaneous Chemical Products | 599 | | \$4,113 | \$24,599 | \$2,462,765 | \$14,728,643 |
| Sector D. Asphalt Paving and Roofing Materials Manufacturers and Lubricant | | | | \$3,759 | \$24,245 | \$0 | \$0 |

Appendix D

Exhibit D-2-3. Potential Cost Savings for Industrial Permittees, in 1998 Dollars

| Subsector | Name | Number of Facilities w/ no Exposure | Analytical Monitoring Annual Costs | Per Facility Annual Costs (Low) | Per Facility Annual Costs (High) | Total Annual Costs (Low) | Total Annual Costs (High) |
|---------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------|------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|
| Manufacturers | | | | | | | |
| 1 | Asphalt Paving and Roofing Materials | 295 | \$140 | \$4,253 | \$24,739 | \$1,253,749 | \$7,292,953 |
| 2 | Miscellaneous Products of Petroleum and Coal | 18 | | \$4,113 | \$24,599 | \$72,592 | \$434,141 |
| Sector E. Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Flat Glass | 14 | | \$4,113 | \$24,599 | \$57,357 | \$343,025 |
| 1 | Glass and Glassware, Pressed or Blown | 120 | | \$4,113 | \$24,599 | \$492,911 | \$2,947,873 |
| 1 | Glass Products Made of Purchased Glass | 336 | | \$4,113 | \$24,599 | \$1,383,737 | \$8,275,482 |
| 1 | Cut stone and stone products | 202 | | \$4,113 | \$24,599 | \$829,884 | \$4,963,145 |
| 1 | Abrasive Products | 90 | | \$4,113 | \$24,599 | \$370,132 | \$2,213,584 |
| 1 | Asbestos Products, Tiles, Building Materials | 5 | | \$4,113 | \$24,599 | \$19,716 | \$117,915 |
| 1 | Mineral Wool, Insulation | 50 | | \$4,113 | \$24,599 | \$205,230 | \$1,227,387 |
| 1 | Nonmetallic Mineral Products, NEC | 108 | | \$4,113 | \$24,599 | \$442,724 | \$2,647,726 |
| 2 | Hydraulic Cement | 51 | | \$4,113 | \$24,599 | \$211,504 | \$1,264,905 |
| 3 | Structural Clay Products | 130 | \$229 | \$4,343 | \$24,829 | \$564,861 | \$3,229,610 |
| 3 | Pottery and Related Products | 248 | \$229 | \$4,343 | \$24,829 | \$1,075,791 | \$6,150,865 |
| 3 | Non-Clay Refractories | 33 | \$229 | \$4,343 | \$24,829 | \$144,763 | \$827,689 |
| 4 | Concrete, Gypsum, and Plaster Products | 2058 | \$281 | \$4,394 | \$24,880 | \$9,040,944 | \$51,194,859 |
| 4 | Minerals and Earths, Ground or Otherwise Treated | 78 | \$281 | \$4,394 | \$24,880 | \$341,764 | \$1,935,257 |
| Sector F. Primary Metals | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Steel Works | 266 | \$300 | \$4,413 | \$24,899 | \$1,173,997 | \$6,624,011 |
| 2 | Iron & Steel Foundries | 256 | \$517 | \$4,631 | \$25,117 | \$1,183,459 | \$6,419,222 |
| 3 | Primary Smelting and Refining of Nonferrous Metals | 40 | | \$4,113 | \$24,599 | \$165,797 | \$991,557 |
| 4 | Secondary Smelting and Refining of Nonferrous Metals | 84 | | \$4,113 | \$24,599 | \$345,038 | \$2,063,511 |
| 5 | Rolling, Drawing & Extruding - | 243 | \$287 | \$4,400 | \$24,886 | \$1,068,968 | \$6,045,844 |

Appendix D

Exhibit D-2-3. Potential Cost Savings for Industrial Permittees, in 1998 Dollars

| Subsector | Name | Number of Facilities w/ no Exposure | Analytical Monitoring Annual Costs | Per Facility Annual Costs (Low) | Per Facility Annual Costs (High) | Total Annual Costs (Low) | Total Annual Costs (High) |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------|------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|
| | Nonferrous | | | | | | |
| 6 | Non-ferrous Foundries | 354 | \$287 | \$4,400 | \$24,886 | \$1,559,831 | \$8,822,052 |
| 7 | Miscellaneous Primary Metal Products | 210 | | \$4,113 | \$24,599 | \$864,835 | \$5,172,176 |
| Sector G. Metal Mining (Ore Mining and Dressing) Except Inactive Metal Mining Activities on Federal Lands | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Iron Ores | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Copper Ores | 0 | \$415 | \$4,528 | \$25,014 | \$0 | \$0 |
| 3 | Lead and Zinc Ores | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 4 | Gold and Silver Ores | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 5 | Ferroalloy Ores, Except Vanadium | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 6 | Metal Mining Services | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 7 | Miscellaneous Metal Ores | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector H. Coal Mines and Coal Mining Related Facilities | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Coal Mines and Coal Mining Related Facilities | 0 | \$370 | \$4,483 | \$24,969 | \$0 | \$0 |
| Sector I. Oil and Gas Extraction | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Crude Petroleum and Natural Gas | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Natural Gas Liquids | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Oil and Gas Field Services | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 4 | Petroleum Refining | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector J. Mineral Mining and Dressing Except Inactive Mineral Mining Activities on Federal Lands | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Dimension Stone | 0 | \$191 | \$4,304 | \$24,790 | \$0 | \$0 |
| 1 | Crushed and Broken Stone, Including Rip Rap | 0 | \$191 | \$4,304 | \$24,790 | \$0 | \$0 |
| 1 | Nonmetallic Minerals, Except Fuels | 0 | \$191 | \$4,304 | \$24,790 | \$0 | \$0 |
| 2 | Sand and Gravel | 0 | \$255 | \$4,368 | \$24,854 | \$0 | \$0 |
| 3 | Clay, Ceramic, and Refractory Minerals | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 4 | Chemical and Fertilizer Mineral Mining | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector K. Hazardous Waste Treatment Storage or Disposal Facilities | | | | \$3,759 | \$24,245 | \$0 | \$0 |

Appendix D

Exhibit D-2-3. Potential Cost Savings for Industrial Permittees, in 1998 Dollars

| Subsector | Name | Number of Facilities w/ no Exposure | Analytical Monitoring Annual Costs | Per Facility Annual Costs (Low) | Per Facility Annual Costs (High) | Total Annual Costs (Low) | Total Annual Costs (High) |
|-------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------|------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|
| 1 | Hazardous Waste Treatment, Storage or Disposal | 545 | \$1,228 | \$5,341 | \$25,827 | \$2,911,347 | \$14,078,296 |
| Sector L. Landfills and Land Application Sites | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Landfills and Application Sites | 0 | \$281 | \$4,394 | \$24,880 | \$0 | \$0 |
| 1 | Open Dumps | 0 | \$281 | \$4,394 | \$24,880 | \$0 | \$0 |
| Sector M. Automobile Salvage Yards | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Automobile Salvage Yards | 0 | \$447 | \$4,560 | \$25,046 | \$0 | \$0 |
| Sector N. Scrap Recycling Facilities | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Scrap Recycling and Waste Recycling Facilities | 0 | \$748 | \$4,861 | \$25,347 | \$0 | \$0 |
| Sector O. Steam Electric Generating Facilities | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Steam Electric Generating Facilities | 216 | \$229 | \$4,343 | \$24,829 | \$939,543 | \$5,371,863 |
| Sector P. Land Transportation Facilities with Vehicle Maintenance or Cleaning Operations | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Railroad Transportation | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Local and Highway Passenger Transportation | 6485 | | \$4,113 | \$24,599 | \$26,675,289 | \$159,532,430 |
| 3 | Motor Freight and Warehousing | 40276 | | \$4,113 | \$24,599 | \$165,662,676 | \$990,751,019 |
| 4 | US. Postal Service | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 5 | Petroleum Bulk Stations | 3904 | | \$4,113 | \$24,599 | \$16,059,949 | \$96,047,047 |
| Sector Q. Water Transportation Facilities with Vehicle Maintenance or Cleaning Operations | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Water Transportation | 2933 | \$466 | \$4,579 | \$25,065 | \$13,429,061 | \$73,505,085 |
| Sector R. Ship or Boat Building or Repairing Yards | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Ship or Boat Building or Repairing Yards | 672 | | \$4,113 | \$24,599 | \$2,762,992 | \$16,524,166 |
| Sector S. Air Transportation Facilities | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Air Transportation | 3987 | \$639 | \$4,752 | \$25,238 | \$18,945,537 | \$100,618,078 |
| Sector T. Treatment Works | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Treatment Works | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector U. Food and Kindred Products | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Meat Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |

Appendix D

Exhibit D-2-3. Potential Cost Savings for Industrial Permittees, in 1998 Dollars

| Subsector | Name | Number of Facilities w/ no Exposure | Analytical Monitoring Annual Costs | Per Facility Annual Costs (Low) | Per Facility Annual Costs (High) | Total Annual Costs (Low) | Total Annual Costs (High) |
|----------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------|------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|
| 2 | Dairy Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Canned, Frozen & Preserved Fruits | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 4 | Grain Mill Products | 0 | \$140 | \$4,253 | \$24,739 | \$0 | \$0 |
| 5 | Bakery Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 6 | Sugar and Confectionery Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 7 | Fat and Oils Products | 0 | \$575 | \$4,688 | \$25,174 | \$0 | \$0 |
| 8 | Beverage Facilities | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 9 | Miscellaneous | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 10 | Tobacco Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector V. Textile Mills, Apparel, and Other Fabric Product Manufacturing | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Textile Mill Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Apparel and Other Finished Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Boot and Shoe Cut Stock and Findings | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Footwear except rubber | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Leather Gloves and Mittens | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Luggage and Cases | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Handbags and Other Personal Leather Goods | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 3 | Leather Goods NEC | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector W. Furniture and Fixtures | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Furniture and Fixtures | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Wood Kitchen Cabinets | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector X. Printing and Publishing | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Printing and Publishing | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector Y. Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Tires and Inner Tubes | 0 | \$210 | \$4,323 | \$24,809 | \$0 | \$0 |
| 1 | Rubber and Plastics Footwear | 0 | \$210 | \$4,323 | \$24,809 | \$0 | \$0 |
| 1 | Gaskets, Packing, and Sealing Devices | 0 | \$210 | \$4,323 | \$24,809 | \$0 | \$0 |
| 1 | Fabricated Rubber Products, NEC | 0 | \$210 | \$4,323 | \$24,809 | \$0 | \$0 |

Appendix D

Exhibit D-2-3. Potential Cost Savings for Industrial Permittees, in 1998 Dollars

| Subsector | Name | Number of Facilities w/ no Exposure | Analytical Monitoring Annual Costs | Per Facility Annual Costs (Low) | Per Facility Annual Costs (High) | Total Annual Costs (Low) | Total Annual Costs (High) |
|--------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------|------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|
| 2 | Miscellaneous Rubber Products | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Musical Instruments | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Dolls, Toys, Games and Sporting and Athletic Goods | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Pens, Pencils, and Other Artist's Materials | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Costume Jewelry, Costume Novelties, Buttons, etc. | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 2 | Miscellaneous Manufacturing Industries | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector Z. Leather Tanning and Finishing | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Leather Tanning and Finishing | 76 | | \$4,113 | \$24,599 | \$313,671 | \$1,875,919 |
| Sector AA. Fabricated Metal Products | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Cutlery, Handtools, and General Hardware | 0 | \$453 | \$4,567 | \$25,053 | \$0 | \$0 |
| 1 | Fabricated Structural Metal Products | 0 | \$453 | \$4,567 | \$25,053 | \$0 | \$0 |
| 1 | Screw Machine Products, and Bolts, Nuts, Screws, etc. | 0 | \$453 | \$4,567 | \$25,053 | \$0 | \$0 |
| 1 | Metal Forgings and Stampings | 0 | \$453 | \$4,567 | \$25,053 | \$0 | \$0 |
| 1 | Electroplating, Plating, Polishing, Anodizing, and Coloring | 0 | \$453 | \$4,567 | \$25,053 | \$0 | \$0 |
| 1 | Miscellaneous Fabricated Metal Products | 0 | \$453 | \$4,567 | \$25,053 | \$0 | \$0 |
| 1 | Jewelry, Silverware, and Plated Wire | 0 | \$453 | \$4,567 | \$25,053 | \$0 | \$0 |
| 2 | Coating, Engraving, and Allied Services | 0 | \$274 | \$4,387 | \$24,873 | \$0 | \$0 |
| Sector AB. Transportation Equipment, Industrial, or Commercial Machinery | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Industrial and Commercial Machinery | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 1 | Transportation Equipment | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector AC. Electronic, Electrical, Photographic and Optical Goods | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Electronic and Other Electrical Equipment | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |

Exhibit D-2-3. Potential Cost Savings for Industrial Permittees, in 1998 Dollars

| Subsector | Name | Number of Facilities w/ no Exposure | Analytical Monitoring Annual Costs | Per Facility Annual Costs (Low) | Per Facility Annual Costs (High) | Total Annual Costs (Low) | Total Annual Costs (High) |
|--------------------------------------|--------------------------------------------------|-------------------------------------|------------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|
| 1 | Measuring, Analyzing and Controlling Instruments | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| 1 | Computer and Office Equipment | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| Sector AD. Any Inadvertent Omissions | | | | \$3,759 | \$24,245 | \$0 | \$0 |
| 1 | Any Inadvertent Omission | 0 | | \$4,113 | \$24,599 | \$0 | \$0 |
| | | | | | | | |
| | Total | | | | | \$318,825,521 | \$1,865,642,987 |

Notes for Exhibit D-2-3:

1. Includes annual expenditures for visual monitoring costs of \$355.00, for submittal of NOI of \$3.25, for municipality notification costs of \$3.25, and for recordkeeping costs of \$91.00.
2. The pollution prevention plan costs were \$3,661 for the low estimate and \$24,147 for the high estimate.
3. The per facility annual costs were calculated as the sum of visual monitoring costs, analytical monitoring costs, submittal of NOI costs, municipality notification costs, recordkeeping costs and the pollution prevention plan costs, for low and high respectively.
4. The total annual cost savings was calculated as the per facility annual cost multiplied by the number of facilities with no exposure for both low and high ranges.